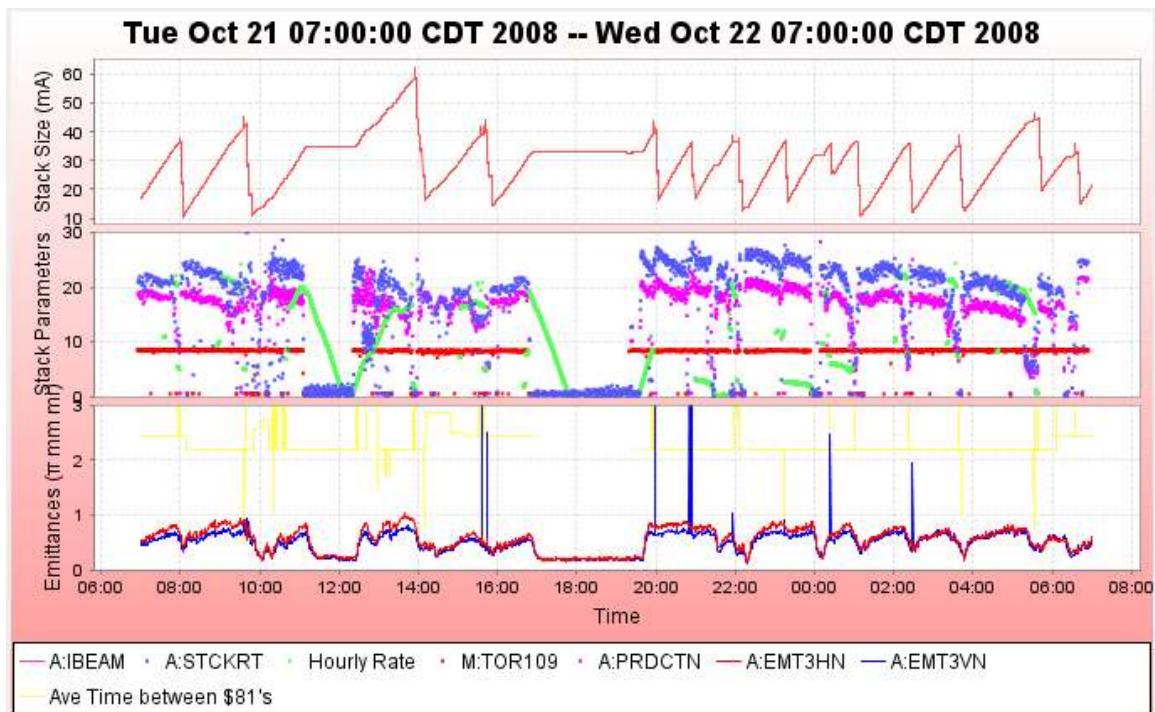


## Stacking

- Performance
  - Most in an hour: 22.59 mA at Tue Oct 21 23:13:52 CDT 2008
  - Average Production 14.05 e-6/proton
  - Pbars stacked: 361.48 E10
- Debuncher momentum notch filter had drifted.
- BPMs.
  - Could not get a closed orbit in the Accumulator. It was found that ARF2 was the problem (<http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar08&action=view&page=449&anchor=125359&hilite=12:53:59->)
    - ENI 2100L was dead.
    - In addition, the fanback log detector was connected to the LL drive instead of the actual fanback.
    - A temporary 3W ENI is now driving the main ENIs and the log detector is now looking at the true fanback signal.
  - Still an issue with Accumulator TBT program (P162) producing garbage data, well have to look at today.
- D:IB LCW leak
- The main source of our poor stacking and core coherent spikes during transfers was found to be the Cryo Stacktail Filter #3 was way off and the trombone had to be increased by a large amount.
- Further investigation showed that this was caused by the #3 filter dewar warming up due to Pbar Dry Engine problems.
- On the evening shift the dry engine belt was tightened and we hoped it would last until morning.
- It didn't and the dry engine flywheel change was started by the end of owl shift.
- Sweeper magnet computer went offline. Rebooting the computer and giving a local reset to the sweeper interlock module brought it back to life.



## Transfers

- Unstacked 357e10 in 34 transfers over 14 sets.
  - Accumulator to MI efficiency 97%
  - Accumulator to RR efficiency 94.5%
- Still an issue with Accumulator TBT program (P162) producing garbage data. This resulted in some closure errors on some of the first transfers. We will look at this today.

Column 1 Number _0_Pbar	Column 4 Number_3_Transfer Time		Column 21 Number _20_A:IB	Unstacked (mA)	Column 24 Number _23_R:BE	Stashed	Acc to RR Eff	Column 27 Number _26_MI DCCT	Column 28 Number _27_MI Before	Acc to MI Eff	Acc to MI2 Eff	Transfers	Sets
	<b>Totals =&gt;</b>	<b>7:00:00 AM</b>		<b>357.17</b>		<b>337.52</b>	<b>94.50%</b>	<b>345.42</b>	<b>345.53</b>	<b>96.71%</b>	<b>96.74%</b>	<b>34</b>	<b>14</b>
9699	Wednesday, October 22, 2008	6:38:20 AM	32.81	18.98	288.27	18.36	96.73%	18.45	18.63	97.19%	98.14%	2	1
9698	Wednesday, October 22, 2008	5:39:34 AM	44.38	25.66	270.50	24.74	96.40%	24.81	24.64	96.66%	95.99%	2	1
9697	Wednesday, October 22, 2008	3:40:30 AM	35.24	23.59	246.74	22.58	95.73%	22.98	23.11	97.41%	97.96%	3	1
9696	Wednesday, October 22, 2008	2:24:52 AM	35.86	24.30	224.80	23.31	95.91%	23.56	23.67	96.94%	97.39%	2	1
9695	Wednesday, October 22, 2008	1:05:23 AM	36.42	26.38	202.02	25.30	95.89%	25.58	25.56	96.96%	96.89%	2	1
9694	Wednesday, October 22, 2008	12:25:34 AM	35.85	11.98	177.04	11.28	94.20%	11.42	11.55	95.39%	96.46%	2	1
9693	Tuesday, October 21, 2008	11:16:00 PM	36.56	22.14	166.09	20.62	93.14%	21.16	21.20	95.56%	95.75%	2	1
9692	Tuesday, October 21, 2008	10:06:26 PM	37.23	25.52	145.87	23.42	91.77%	25.05	24.79	98.16%	97.15%	2	1
9691	Tuesday, October 21, 2008	8:55:02 PM	36.09	20.99	122.89	18.80	89.54%	19.79	19.81	94.27%	94.39%	2	1
9690	Tuesday, October 21, 2008	8:00:31 PM	40.49	25.53	104.36	23.13	90.59%	24.57	24.78	96.23%	97.03%	2	1
9689	Tuesday, October 21, 2008	3:44:03 PM	40.12	27.34	81.78	26.53	97.04%	26.62	26.76	97.38%	97.87%	3	1
9688	Tuesday, October 21, 2008	1:56:25 PM	58.32	44.56	55.66	42.64	95.69%	43.62	43.34	97.89%	97.26%	5	1
9687	Tuesday, October 21, 2008	9:39:53 AM	42.46	33.90	392.67	31.75	93.65%	32.56	32.71	96.05%	96.47%	3	1
9686	Tuesday, October 21, 2008	8:00:04 AM	36.16	26.29	363.20	25.07	95.37%	25.26	25.00	96.08%	95.07%	2	1

## Studies

- None

## Requests

- General tuning and work on Emittance issues....
- Static Stacktail Measurements. (On hold until we figure out Core Cooling issues)**
  - Conditions:
    - This study should be started directly before a set of transfers to Recycler. We want a 30mA stack.
    - Prior to the start of this study, we would like five supercycles of stacking without SY120 or Studies events in the TLG. This will allow setup the stacktail in a known condition for the study.
  - The Study:
    - A Numi-only TLG is loaded
    - The studier is Dave Vander Meulen
    - The estimated study time is 20 minutes.
  - After the study is complete, we can transfer to the Recycler.
  - Leave > 10mA of beam behind for the next study.
- Stacktail Transfer Function Measurements: (On hold until we figure out Core Cooling issues)**
  - Conditions:
    - This study will start with 10mA leftover after a set of transfers.
  - The Study
    - The studiers are Steve Werkema and Ralph Pasquinelli.
    - The estimated study time is 4 hours.
    - If beam is lost during any of the measurements, we need to be able to stack for short periods of time to replace the beam for the next set of

measurements.

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## The Numbers

- Paul's Numbers
  - Most in an hour: 22.59 mA at Tue Oct 21 23:13:52 CDT 2008
  - Best: 27.01 mA on 03-Jun-08
  - Average Production 14.05 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
  - Average Protons on Target 7.55 e12 Best: 8.77 e12 on 07/24/2007
  - Largest Stack 58.92 mA Best: 313.58 mA on 02/18/2008
- Al's Numbers
  - Stacking
    - Pbars stacked: 361.48 E10
    - Time stacking: 20.39 Hr
    - Average stacking rate: 17.73 E10/Hr
  - Uptime
    - Number of pulses while in stacking mode: 31213
    - Number of pulses with beam: 28739
    - Fraction of up pulses was: 92.07%
  - The uptime's effect on the stacking numbers
    - Corrected time stacking: 18.77 Hr
    - Possible average stacking rate: 19.26 E10/Hr
    - Could have stacked: 392.60 E10/Hr
  - Recycler Transfers
    - Pbars sent to the Recycler: 357.16 E10
    - Number of transfers : 34
    - Number of transfer sets: 14
    - Average Number of transfer per set: 2.43
    - Time taken to shoot including reverse proton tuneup: 00.25 Hr
    - Transfer efficiency: 94.12%
  - Other Info
    - Average POT : 7.79 E12
    - Average production: 16.14 pbars/E6 protons
  -

Other